



USDA-NIFA award no. 2021-38823-34702





Agriculture Career Pathways







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Production agriculture

Agriculture

Food processing & consumption

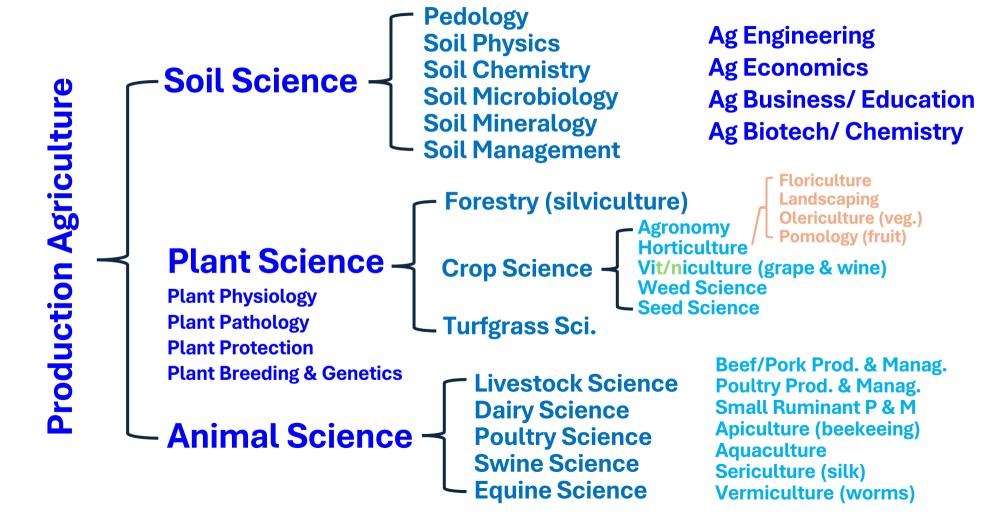
Natural resources conservation





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Food Processing & Consumption

Food Science Food Chemistry Food Microbiology Food Engineering Food Analysis Food Product Development & Evaluation Food Processing & Packaging Food Safety & Quality **Culinary Arts Food Economics: Consumer Behavior Food Market Research Commercialization of Food Products Food Policy & Regulations**





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Natural Resources

(Wetland) Biology (Urban) Forestry

(Wildlife) Ecology Fisheries & Wildlife Conservation

Ichthyology Ecological Restoration

Ornithology Land Use Planning

Dendrology Landscape Analysis

Mammalogy Integrated Watershed Management

Climatology Environ. Assessment & Justice

Soil Resources Conservation Law Enforcement

Water Resources Management

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Essential knowledge & skills for an agriculture career

- ✓ Academic foundations
- √ Technical skills
- ✓ Effective communication skills
- ✓ Problem solving & critical thinking
- √ Teamwork spirit & skills
- ✓ Information technology (IT) systems
- √ Knowledge of safety, health & environment
- √ Ethics & legal responsibilities
- √ Employability & career development







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Agriculture career pathways in



- Plant systems
- Animal systems
- Food processing systems
- Agribusiness systems
- Natural resources systems
- Environmental systems
- Biotechnology
- Structural & technical systems





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Career pathways in plant systems



To study plants & their growth. Use genetic engineering to improve crops; develop ways to enhance seeds, crop yield, soil health, & the environment

- Crop grower
- Landscaper
- * Forester
- Nursery/park/plantation manager
- Agronomist/horticulturist/biologist
- Soil scientist/conservationist
- Agrochemist

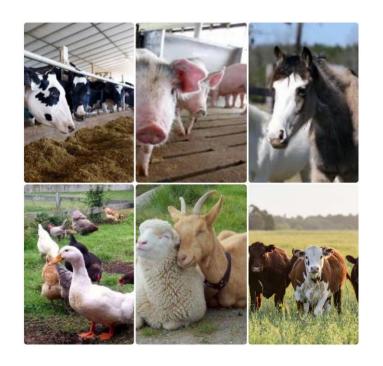




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Career pathways in animal systems



Study genetics, nutrition, reproduction, growth of farm animals; develop new ways of producing and processing meat, dairy, egg, & fur.

- Animal farmer
- Animal caretaker (veterinarian & assistant)
- Zoo/lab animal technician
- Livestock finish technician
- Fisheries & wildlife conservationist
- Animal breeder
- Animal scientist





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Career pathways in food processing systems



Develop new food products and ways to process, preserve, pack, & store food, analyze food content, and inspect food processing areas.

- Food process engineer (butcher, meat cutter)
- Food production specialist
- Grain facility operator
- Food inspector
- Sales representative
- Nutritionist
- Food scientist & technologist





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Career pathways in agribusiness systems



Coordinate the production, processing, marketing, distribution, and financing of ag commodities & resources to increase efficiency & profitability.

- Farm product dealers (buying & selling agents)
- Ag equipment sales representative
- Ag production supervisor/manager
- Farm labor contractor
- Ag economist or policy analyst
- Supply chain coordinator
- Ag marketing specialist





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Career pathways in natural resources systems



Maintain and manage natural & urban environments; protect wildlife & natural resources; maintain parks.

- Conservationist
- Restoration specialist
- Forester
- Logger
- Sawmill operator
- Aquaculturist
- Water resource engineer
- Watershed manager





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Career pathways in environmental systems



Manage waste disposal & recycling operations, control water & air pollution; develop regulations to prevent environmental mishaps.

- Waste abatement technician
- Recycling & landfill supervisor
- Water resource manager
- Environmental engineer
- Environmental scientist
- Environmental service director
- Env. regulatory compliance specialist





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Career pathways in biotechnology



Use genetic engineering, biorefining, tissue culture, & breeding techniques to develop products or improve organisms for specific agricultural uses

- Bioproduct developer
- Controlled-environment producer
- Biorefining system operator
- Biomedical engineer
- Ag safety inspector
- Lab technician
- Biological scientist





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Career pathways in structural & technical systems



Apply knowledge of engineering, hydraulics, pneumatics, electronics, power, structures & controls to ag. Innovate, design and build solutions.

- Precision ag machinery operator
- Ag mechanical engineer
- Agrivoltaic engineer
- Wind turbine technician
- Fuel distribution operator
- Plant maintenance technician
- Ag equipment sales representative